

REMARKS

Applicants greatly appreciate the courtesy extended by the Examiner during the interviews of February 4 and February 11.

The Notice of Allowance of February 19, 2004 has been received and its contents carefully noted.

Claims 1-2, 5-8, 10-11, 13-14, and 17-18, and 20-26 are pending in the application. As indicated during the interview, Claims 1-10, 14, and 17-18 are allowable. Claims 11, and 20-26 have been amended. Claim 19 has been canceled.

From the Office Action mailed July 22, 2003 and the telephone interview conducted with examiner on February 4, 2004, Claims 11, 13, 19, 22-24, and 26 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over Horsky (U.S. Patent No. 5,703,372). Also, Claims 20-21, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Horsky. Applicants respectfully traverse these rejections, and request allowance thereof in the continuation prosecution application for the following reasons.

The Claims are Patentable Over the Cited References

Claims 11, 13, and 20-26 are not anticipated or made obvious by Horsky

Claims 11, 13, and 20-26 stand rejected under § 102(b) or § 103(a) in view of Horsky. Applicants strongly contend that Horsky fails to disclose the features recited in these claims as amended

such as a cathode for an ion source including a button member having a collar piece and a slug piece secured in said collar piece, wherein peripheral portion of a front face provided by the collar piece is substantially co-planar with at least a circumferential part of central portion of said front face provided by the slug piece, wherein the slug piece protrudes rearwardly relative to the collar piece so that the central portion of the rear face of the button member is rearward of the peripheral portion of said rear face, or wherein the slug piece and the collar piece of the button member are made of the same material.

Horsky does not disclose these patentably distinct features of wherein peripheral portion of a front face provided by the collar piece is substantially co-planar with at least a circumferential part of central portion of said front face provided by the slug piece, wherein the slug piece protrudes rearwardly relative to the collar piece so that the central portion of the rear face of the button member is rearward of the peripheral portion of said rear face, or wherein the slug piece and the collar piece of the button member are made of the same material.

In strong contrast to these recited features, Horsky discloses a cathode including an endcap member that protrudes, at its front face, beyond an inner tubular member into a gas confinement chamber, does not protrude beyond the tubular member at its rear face, and is composed of a different material (wrought tungsten)

than the inner tubular member (molybdenum alloy). (see FIG. 6; col. 2, lines 33-39, 64-67; col. 3, line 1). Specifically, Horsky states that "...the cathode body includes an inner tubular member...preferably comprised of molybdenum alloy...the endcap is comprised of wrought tungsten...the first end of the endcap disposed in the inner tubular member while the second or emitter end of the endcap extends beyond the distal end of the inner tubular member into the gas confinement chamber." (see FIG. 6; col. 2, lines 33-39, 64-67; col. 3, line 1).

As clearly stated, the front face of the endcap of Horsky protrudes into the gas chamber beyond the end of the inner tubular member in contrast to the recited feature of the peripheral portion of the front face provided by the collar piece is substantially coplanar with at least a circumferential part of central portion of said front face provided by the slug piece.

Also, as clearly stated and shown in FIG. 6, the rear face of the endcap of Horsky does not protrude beyond the inner tubular member since the inner tubular member extends the entire length of the cathode body in contrast to the recited feature of the slug piece protrudes rearwardly relative to the collar piece so that the central portion of the rear face of the button member is rearward of the peripheral portion of said rear face. Therefore, essentially, the endcap of Horsky protrudes directly opposite from the recited collar and slug pieces as the Horsky endcap protrudes

beyond the inner tubular member at its front face and does not at its rear face in direct contrast to the collar piece and slug piece being substantially co-planar at the front face, and the slug piece protruding rearwardly, relative to the collar piece, at the rear face as recited. Additionally, Horsky clearly describes the endcap and the inner tubular member as being composed of different materials (tungsten vs. molybdenum alloy) in direct contrast to the recited feature of the slug piece and the collar piece being made of the same material.

Therefore, it is clear that Horsky does not disclose the recited features of wherein peripheral portion of a front face provided by the collar piece is substantially co-planar with at least a circumferential part of central portion of said front face provided by the slug piece, wherein the slug piece protrudes rearwardly relative to the collar piece so that the central portion of the rear face of the button member is rearward of the peripheral portion of said rear face, or wherein the slug piece and the collar piece of the button member are made of the same material making the claimed invention patentably distinct and non-obvious from this cited reference.

Conclusion

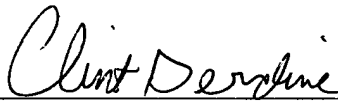
In view of the amendments and remarks submitted above, it is respectfully submitted that all of the remaining claims are allowable and a Notice of Allowance is earnestly solicited.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayments to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

The Examiner is invited to contact the undersigned at (703) 205-8000 to discuss the application.

Respectfully submitted,

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